

### Epidemiology

- **Human** disease is caused by influenza A or influenza B
- Ongoing minor antigenic changes require yearly vaccination in the fall
- Knowing the currently circulating strain aids in decisions regarding antiviral treatment and prophylaxis

### Clinical Presentation

- High fever, chills, prostration, muscle aches, sore throat, coryza, cough; at times, also vomiting and diarrhea

### Differential Diagnosis

- Febrile respiratory illnesses such as bacterial pneumonia, mycoplasma, adenovirus, avian influenza (e.g. influenza A H5N1), and SARS

### Laboratory

- Rapid testing of nasopharyngeal swabs for influenza
- Consider NP swab for respiratory viral culture (if positive, allows for further typing of isolate)
- Do not order routine viral **culture** if avian influenza is suspected

### Infection control

- Droplet precautions (mask within 3-6 feet)
- Routine standard precautions and good handwashing before & after patient contact

### Treatment & Prophylaxis

- Antivirals shorten the course of illness when given within the first 1-2 days of influenza symptoms
- CDC recommends against the use of amantadine & rimantadine for the 2006-2007 season

	Amantadine (Symmetrel®)	Rimantadine (Flumadine®)	Oseltamivir (Tamiflu®)	Zanamivir (Relenza®)
Effective for Influenza A	Not recommended for 2006-2007 season		Yes	Yes
Effective for Influenza B	No	No	Yes	Yes
Mode	Oral	Oral	Oral	Inhaled
Treatment	≥ 1 y.o.	≥ 13 y.o.	≥ 1 y.o.	≥ 7 y.o.
Prophylaxis	≥ 1 y.o.	≥ 1 y.o.	≥ 1 y.o.	≥ 5 y.o.

### Follow CDC's recommendations for ages and contraindications

- Don't use smaller vaccine doses than recommended
- Use LAIV (Flumist™) only in healthy people ages 5 years-49 years
- Persons receiving LAIV should avoid close contact with severely immunosuppressed people for 7 days
- Contraindications to inactivated influenza vaccine or LAIV
  - Anaphylactic allergy to eggs
  - Guillain-Barré syndrome during the 6 weeks following a previous influenza vaccine

**Remember Pneumovax® or Prevnar® pneumococcal vaccine for high-risk individuals.**

## **Influenza Vaccine Recommendations for 2006-2007 season**

### Inactivated intramuscular shot [Multiple manufacturers]:

- 1) Ages  $\geq$  50 y.o.
- 2) All children ages 6 mo.-59 mo.
- 3) Household contacts and caregivers of children 0-59 months and persons at high risk of complications from influenza
- 4) Ages 2 y.o.-64 y.o. with a chronic medical conditions (e.g. heart disease, lung disease, asthma, diabetes, kidney disease, HIV, immunosuppression, etc.).
- 5) Pregnant during influenza season.
- 6) Children age 6 mo.-18 y.o. on chronic aspirin therapy.
- 7) Health care workers
- 8) Residents of any age in a nursing home or chronic care facility.
- 9) Patients with any condition that can compromise respiratory function, handling of respiratory secretions, or can increase risk of aspiration.
- 10) **Anyone** wishing to reduce their risk of influenza.

### Live attenuated influenza vaccine (LAIV) [Flumist™]:

- Healthy, nonpregnant people ages 5 y.o. through 49 y.o., including close contacts of infants and most health care workers

### Pediatric pointers

- Children ages 5 years-8 years old receiving any influenza vaccine for the first time need two doses of vaccine.
  - Two inactivated shots should be spaced  $\geq$  4 weeks apart
  - Two LAIV doses should be separated by 6-10 weeks
- Notify local or county health department for pediatric influenza deaths.

### Staphylococcal and MRSA disease associated with influenza

- MRSA is becoming a community-acquired infection
- Influenza increases risk of *Staphylococcus aureus* respiratory infection
- During the 2003-2004 season, CDC reported severe illness and death associated with influenza and MRSA
- Physicians caring for patients who have influenza and worsening respiratory status requiring IV antibiotics should consider adding **vancomycin** for staphylococcal coverage until culture results are available and/or clinical improvement occurs
- Many oral antibiotics do not cover MRSA
- Oral antibiotics that may be effective against MRSA
  - Clindamycin (Good against *Streptococcus pneumoniae*)
  - Trimethoprim-sulfamethoxazole
    - Poor for *S. pneumoniae* which also complicates influenza
    - Avoid in pregnancy

### **For More Information**

- ADHS website at [www.azdhs.gov/phs/immun/providersflu.htm](http://www.azdhs.gov/phs/immun/providersflu.htm)
- Centers for Disease Control and Prevention website at [www.cdc.gov/flu](http://www.cdc.gov/flu)
- MMWR July 28, 2006 "Prevention and Control of Influenza" at [www.cdc.gov/mmwr/PDF/rr/rr5510.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr5510.pdf)
- ADHS Hotline for the Public (Recorded message):  
Metro Phoenix 602-364-4500; Statewide 1-800-314-9243